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AUTHOR	Ziff, Matthew
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ABSTRACT

Design students provide a constant source of energy that moves into the mainstream of society. Their energy needs to be directed toward improving the characteristics of the built environment at every physical and economic scale of activity. Teaching design involves a broad range of decisions on how to present relevant design education content to students. This paper focuses on a design curriculum. The paper also discusses the structure of a design curriculum, considers second year design issues, ponders how to structure an investigation into the issues, examines the evolution of conceptions of space, and outlines a concept of materials. It concludes that if an educational program is going to have a chance of successfully stimulating students to create alternative environmental proposals, it must imbue them with a powerful sense of mission and a belief in the possibility of changing the pieces of the world that they encounter. (Contains a 12-item bibliography.) (BT)

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"Space & Materials: A Second Year Design Curriculum"

by Matthew Ziff, Assistant Professor, NCIDQ

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Interior Architecture Program
School of Human and Consumer Sciences
Ohio University
Athens, Ohio 45701
Telephone: 740. 593. 2869

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"Space & Materials: A Second Year Design Curriculum"

I. The Structure of a design curriculum

Teaching design is a complex undertaking. It involves a broad range of decisions as to how to present relevant design education content to students. How students assimilate, absorb, make use of, or learn this design content has to do, in part, with the structure of the curriculum. If learning takes time, and learning design skills and developing understanding of design issues take more time, and more repetitive iterations than one might expect, then it seems appropriate that progress across time should be a primary factor in structuring a design education curriculum. If students progress across time, it seems reasonable to expect that associating levels of ability with chronological passages would be a useful device for grouping students.

Identifying students by their successful completion of years of study suggests the structure of the curriculum acknowledges the development of the student 'over time', which is to say, that it recognizes a diachronic nature to the learning process. In this structure, the design content students are engaged with at one level are selected to provide a foundation for the next level, and reflexively, the work undertaken in all but the first level of study (which in fact should look back to draw from the student's life experiences prior to formal study in a design program) should contain an explicit assumption and demand that students make use of the preceding level. This is not to suggest that progress across time implies a necessarily 'linear' educational structure. As James Barnes points out in "A Case for the Vertical Studio" (Journal of Interior Design, Volume 19, Number 1, 1993, page 35)

> "First and foremost is the belief that design education is not a linear process, but rather is experiential in nature."

This approach to structuring a design curriculum may be contrasted with one in which specific content units, or project types are presented to students in a synchronic manner. This method proposes that the content of the design work being undertaken at any one moment in a student's educational process may vary greatly from the work of other students who have been in the design program for similar lengths of time. The 'vertical studio' concept is one that allows for a socially and educationally dynamic environment in a classroom, but it does not allow for an easy comparison or understanding of the range of skills and understanding that each student possesses relative to other students at a comparable level of completion of the curriculum. The vertical studio is a good format for sharing ideas, experiences and skills across a range of students, but it does not provide a format for developing an understanding of fundamental design principles 'in situ'. Special projects, short topical studios, charettes, and competitions are all instances in which a vertical organization may be useful and appropriate.

II. What are second year design issues ?

Projects undertaken in second year design studio introduce students to spaces large enough to be occupied, used, or inhabited by a human being, but not so large as to require a level of space planning or programming which removes the student from an immediate relationship to the space. The difference between designing a 20,000 square foot office space and designing a 500 square foot kitchen is not only a matter of size, but also a matter of preventing the perception of the space from becoming an abstract concept, rather than a beholdable entity, with qualitative responses to functions, behaviors, and environment. Second year design issues concern fundamental principles of design. It is a time for students to shift their investigations from small, hand held, tangible, single or limited space and material configurations, to larger, in a sense, abstract spatial and material configurations. The shift in intellectual and sensible quality, from a hand held object, which are an important part of a first year curriculum, to larger, human occupied spaces, is more than a shift in size. It is also a shift in 'kind'. The kind of spaces that people occupy and move through cannot

typically be viewed, held, and studied full size, or in complete material detail. The design process involved in documenting, and studying large spaces is one that calls for an ability to abstractly conceive, and abstractly image. Developing an ability to do this is a difficult task. Design principles, such as symmetry, hierarchy, rhythm/repetition, datum, and transformation, as well as scale, proportion, and module, can be studied as specific attributes of a design project, and can help acquaint students with abstract aspects of design. The understanding of space and materials that students bring with them into second year is often one that has been formed primarily through 'hands on' experiences.

III. How to structure an investigation into the issues

While it is clear that the content of a design course, such as "residential design 1", or "contract design 1" may consist of a sequence of projects which introduce students to design skills, concepts, and principles, the separation of design activity into content types strongly supports the notion that there are significant, if subtle, differences in the design process involved in designing different types of spaces. While it is certainly clear that there are varied activities required of design students and practitioners who are engaged in designing different kinds of spaces, it is not clear that the design process, the underlying concepts, or design principles employed are different from project type to project type. If we consider the act of designing as a dynamic and interactive one, in which there are, in John Zeisel's terms, acts of "imaging", "testing", and "presenting" which call upon reflexive, transformational, analytical, and communication skills, then the specific content or type of project being addressed must be seen as a subset to the larger set of design principles, skills, knowledge and understanding. All designers 'design', but not all designers design the same things.

IV. What is a concept of space ?

Second year design provides an appropriate place and time to encourage students to develop and refine conceptions of space and the use of materials. What is a developed or

refiined conception of 'space'? With regard to second year design students, it may be more useful and appropriate to divide the discussion into 'pre conceptions' of space and materials and subsequently developed, or refined, through design education, conceptions of space. Conceptions of space have evolved over time, and in the 20th century have taken dramatic turns and re configurings. Stanley Abercrombie points out that Frank Lloyd Wright's career long investigations into breaking the box and developing a sense of interior spaciousness were motivated in part by a desire to be free of the closed rooms of traditional plans. (Abercrombie, Stanley, A Philosophy of Interior Design, p. 21) Sigfried Giedion proposes three distinct conceptions of space in "Space, Time, and Architecture, The Growth of a New Tradition". These conceptions are, first, "The interplay between volumes. This stage encompassed the architecture of Egypt, Sumer, and Greece. Interior space was disregarded.", second, one which "began in the midst of the Roman period when interior space and with it the vaulting problem started to become the highest aim of architecture.", and third, that which "set in at the beginning of this century with the optical revolution that abolished the single viewpoint of perspective". Cubism expressed a powerful shift in how space may be conceived, relating space not only to alternative formal arrangements, but to the position of a viewer, or user, and the time required to take in a space from multiple positions. "Space in modern physics is conceived of as relative to a moving point of reference, not as the absolute and static entity of the baroque system of Newton." (Giedion, p. 436) A developed conception of space is meant to suggest one that is not widely held, either by designers, or by people outside of the design community. It is a conception that is not functionally, or contextually abstract, and one that is the result of a creative process of thoughts and actions addressing function and context. Typical, regular, pre-conceptions of space include 'the shoe box', the 'double shoe box', the 'multiple shoe box', the 'doughnut', and other shapes that are essentially plan drawings extended vertically, independent of function, context, or material considerations. While any of

these images could be a diagram for an appropriate and exciting design, typically design students turn to these kinds of forms and volumes out of uncertainty or inexperience. Typically the context of a design project, its program requirements, its function, and the synthesizing concept of the designer do not give rise to the form and volume of the design. The problem with this is not that functional requirements, budgets, and even user satisfaction will be ignored, but even worse, that they will be satisfactorily met through the employment of pre-conceived forms, volumes, and spaces. The problem with this is what we can see all around us, at every scale in the built environment today. From objects for house and office, to entire interior spaces, to whole buildings and urban and suburban developments, our designed landscape rarely challenges us to try to understand new possible formulations of space.

V. What is a concept of materials ?

Materials allow us to perceive light, color, space, and grasp the intricacies of function and form. For designers the fundamental questions concerning the use of materials have to do with their effectiveness at connecting our multi dimensional perceptual capacities with the built environment. As mobile, thinking, and feeling beings, people have the capacity to respond, evaluate, and interact with the built environment in several modes. The classic Vitruvian triad expressed by Sir Henry Wotton as "commodity, firmness, and delight" [firmitas, utilitas, venustas] expresses the range of human responses and needs associated with having a rich interaction with a work of design. Second year design projects which emphasize investigations into the nature of materials can provide students with an understanding of the built consequences of material uses. Materials have the potential to aid us in an effort to understand and analyze the methods and purpose of construction techniques employed in a work of design, and they have the potential to obscure these methods. Materials can also be employed to provide illusions of methods and purposes, or to provide allusions to precedents or similar types of design. 'Faux', 'fake', and 'fantasy'. Each of these descriptors has it own

connotations, suggesting the kind of user response, methods of construction, and importance of the materials employed within a design scheme . Student design projects need to address the nature of materials selected in order to provide direction, control, and a palette for the concept of the project, as well as the development of the project's character and detail. This attention will provide the design student with a more powerful understanding of how physical, intellectual, and emotional connections within, and responses to a work of design can be made, as well as how materials can support and enhance functional and programmatic requirements within a design project.

VI. Conclusion

The built environment around us needs the attention of designers. Their attention is needed not only to answer the questions of users, clients, programmers, and builders, but also to pose their own questions, and to propose alternative visions of what is appropriate, possible, and exciting. Design students provide a constant source of energy that moves into the mainstream of society. Their energy needs to be directed toward improving the characteristics of the built environment, at every physical and economic scale of activity. While design educators may feel that completion of a design curriculum typically assures a level of curiosity, creativity, and even derring-do on the part of students, the continuing character of the physical world around us suggests that this is not enough. It is not enough because pre-conceptions, incorrect information, and uncertainty still pervade the designing and building of spaces that we live and work in. The pre-conceptions concern out dated, inappropriate, and socially counter productive ideas about spaces and uses of materials. The uncertainty concerns the tremendous lack of awareness and confidence that many people have about the characteristics of their own physical environments. What are the user oriented, climate responsive, site sensitive, program generated, and poetically derived reasons for the vast majority of our urban and suburban residential and office spaces to be constructed with eight foot ceiling heights?

Of course we all know the reasons for this particular physical condition, and that is precisely why design curricula must distance themselves from the interests, requirements, and demands of the building industry, and related design practitioners. In our current economic and social climate, students are often reluctant to direct their studies toward areas which are not immediately related to obtaining employment. At every level of the design curriculum, students regularly ask "how will doing this project, or this kind of investigation help me get a job?" The answer we give them is typically in terms of developing knowledge, skills, and attitude that will allow them to work within a broadly defined field of interior design.

The goal of becoming a successful practitioner within a professional and economic system is not a sufficiently profound motivator to cause students to look beyond their immediate horizons, and dedicate themselves to that quest. If an educational program is going to have a chance of successfully stimulating students to create alternative environmental proposals, it must imbue them with a powerful sense of mission and a belief in the possibility of changing the pieces of the world that they encounter. Students have to carry that sensibility with them after they leave school and have to look for opportunities to manifest it in their future work. If we can structure our teaching to achieve this kind of belief in our students, then we have truly made a contribution to the human environment.

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